

UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION

ACQIS LLC,  
a Texas limited liability company,

Plaintiff,

v.

ADLINK TECHNOLOGY, INC., a  
Taiwanese corporation,  
and

ADLINK TECHNOLOGY (CHINA) CO  
LTD., a Chinese corporation,

Defendants.

Civil Action No. 6:24-cv-248

JURY TRIAL DEMANDED

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff ACQIS LLC (“Plaintiff” or “ACQIS”), by its attorneys, hereby alleges patent infringement against Defendants ADLINK Technology, Inc., and ADLINK Technology (China) Co Ltd. (individually “Defendant” and collectively “Defendants” or “Adlink,” unless context indicates otherwise) as follows:

**INTRODUCTION**

1. This is an action for patent infringement under the United States Patent Laws, 35 U.S.C. § 1 *et seq.* Beginning in the late 1990s, Dr. William Chu founded ACQIS and invented a variety of pioneering computer technologies that employed serial transmission along low voltage differential signal (LVDS) channels to dramatically increase the speed at which data can be transmitted while also reducing power consumption and noise. Dr. Chu’s inventions have become

foundational in the computer industry, and are found in a variety of data transmission systems, including PCI Express (PCIe) and/or USB 3.x<sup>1</sup> transactions.

2. Defendants have infringed the following patents owned by ACQIS: U.S. Patent Nos. 9,529,768 (“’768 patent”), 9,703,750 (“’750 patent”), 8,756,359 (“’359 patent”), 8,626,977 (“’977 patent”), RE44,739 (“’739 patent”), 8,977,797 (“’797 patent”), RE45,140 (“’140 patent”), RE44,654 (“’654 patent”), and 8,234,436 (“’436 patent”) (collectively, the “ACQIS Patents”). Copies of the ACQIS Patents are attached to this Complaint as Exhibits 1-9.

3. Specifically, Defendants have infringed the ACQIS Patents through: (1) the manufacture, use, offering to sale, and/or sale in the United States, and/or the importation into the United States, of infringing computer products; (2) the practice of claimed methods of the ACQIS Patents by manufacturing, using, and/or testing computer products in the United States; (3) the importation into the United States of computer products made abroad using ACQIS’s patented processes; and (4) the inducement of third parties to engage in the activity described above with knowledge of the ACQIS Patents and of the third parties’ infringing actions.

4. ACQIS seeks damages and other relief for Defendants’ infringement of the ACQIS Patents. ACQIS is entitled to past damages because, without limitation, it has provided actual notice to Defendant and for method claims which do not require marking.

## **THE PARTIES**

5. Plaintiff ACQIS LLC, is a limited liability company organized and existing under the laws of the State of Texas, with offices at 411 Interchange Street, McKinney, Texas 75071. A related entity, ACQIS Technology, Inc., is a corporation organized under the laws of the State of Delaware, having its principal place of business at 1503 Grant Road, Suite 100, Mountain View,

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<sup>1</sup> As used herein, “USB 3.x” refers to USB 3.0 and subsequent versions, including USB 3.1, USB 3.2, and any other subsequent versions.

California 94040. ACQIS LLC is operated from California, where its President, Dr. William Chu, resides. Dr. Chu is also the Chief Executive Officer of ACQIS Technology, Inc.

6. ADLINK Technology, Inc. is a Taiwanese company with its principal place of business at No. 66, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan.<sup>2</sup>

7. ADLINK Technology, Inc. is the parent company of a multinational conglomerate that operates under the name “ADLINK” or “the Group”<sup>3</sup>

8. On information and belief, ADLINK Technology (China) Co Ltd. (“ADLINK China”) is a wholly owned subsidiary of ADLINK Technology, Inc.

9. ADLINK China is a Chinese corporation with its principal place of business at 300 Fang Chun Rd., Zhangjiang Hi-Tech Park, Pudong New Area, Shanghai, 201203 China.<sup>4</sup>

10. ADLINK China’s role in the Adlink Group’s business included “[m]anufacture and sale of the Company's products,” and “[m]anufacturing and selling of industrial computers.”<sup>5</sup>

11. On information and belief, ADLINK China imported, sold, and offered to sell products that infringe the ACQIS Patents.

12. Publicly available import data<sup>6</sup> indicates that ADLINK China has imported into the United States computer products, such as computer servers.<sup>7</sup> On information and belief, ADLINK China’s imports have included those products accused of infringement in this Complaint prior to the ACQIS Patents’ expiration.

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<sup>2</sup> <https://www.adlinktech.com/en/contactus>.

<sup>3</sup> See 2020 Adlink Annual Report at, e.g., 5-3 (Letter to Shareholders).

<sup>4</sup> <https://www.adlinktech.com/en/contactus>.

<sup>5</sup> 2022 Adlink Annual Report at 104, 136.

<sup>6</sup> U.S. Import Records, available from Import Genius.

<sup>7</sup> See, e.g., U.S. Import Bills of Lading Nos. SDMRSHSE18110084, SDMRSHSE18110488.

13. Similarly, publicly available import data indicates ADLINK Technology, Inc., has likewise imported into the United States computer products, including this District.<sup>8</sup> On information and belief, ADLINK Technology, Inc. has imported products accused of infringement in this Complaint prior to the ACQIS Patents' expiration.

14. On information and belief, Adlink products, including products accused of infringement in this Complaint, have been sold in this District six years prior the filing of this Complaint and through the ACQIS Patents' expiration. ADLINK Technology, Inc. has included a list of resellers on its website that direct U.S.-based customers to third parties selling the Adlink products.<sup>9</sup> On information and belief, among that list are resellers with sales offices in this District.<sup>10</sup> Furthermore, on information and belief, numerous resellers of Adlink products accused of infringement in this Complaint have offered for sale and sold such products since at least 2018.<sup>11</sup>

15. On information and belief, Adlink conducts business relating to the computer products accused of infringement in this Complaint directly or, in the alternative, by exerting such direction and control over its directly and indirectly owned subsidiaries that its subsidiaries act as its agents and/or alter ego, such that the actions of its subsidiaries are attributable to Adlink.

16. On information and belief, in 2008, Adlink acquired 100% of Ampro Computers Inc. to begin marketing and selling products in the United States. Upon the acquisition, Adlink formed

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<sup>8</sup> See, e.g., U.S. Import Bills of Lading Nos. NMCLPKDLS077132.

<sup>9</sup> <https://www.adlinktech.com/en/wheretobuy>.

<sup>10</sup> For example, third-party seller Avnet lists an Austin, TX, sales offices among its locations. See <https://www.avnet.com/wps/portal/us/about-avnet/locations/>.

<sup>11</sup> See, e.g., <https://web.archive.org/web/20180624112701/http://www.wdlsystems.com/Box-PC/MXC-6300-Series/>;  
<https://web.archive.org/web/20180624111233/http://www.wdlsystems.com/Box-PC/MXC-6400-Series/>;  
<https://web.archive.org/web/20180414161821/http://www.bressner.de/en/products/industrial-computing-en/embedded-box-pcs-en/>.

its U.S. subsidiary Ampro ADLINK Technology Inc. for the marketing, sell, and distribution of Adlink products in the United States.<sup>12</sup>

17. ADLINK Technology, Inc., has a history and culture of maintaining dominance and control over its subsidiaries by seeding management teams (including those in the United States) with individuals jointly affiliated with Adlink. For example, Adlink's Annual Report identifies Mr. Chun (Jim) Liu as CEO of ADLINK Technology, Inc., as well as Chairman of the Board of Directors of Adlink's U.S. subsidiary Ampro ADLINK Technology Inc., Dongguan Lingyao Electronics Technology Co., Ltd. (directly owned by ADLINK Technology Inc., and the direct owner of ADLINK China), and ADLINK China, among other high-level roles amongst Adlink entities.<sup>13</sup> As another example, Mr. Ta-Chih (Jeff) Chou is identified as both Adlink's Chief Financial Officer and Director of Ampro ADLINK Technology Inc., and Director of ADLINK China, among various other roles throughout Adlink entities.<sup>14</sup>

18. Adlink's "Statement of Internal Control" reflects ADLINK Technology, Inc.'s dominance and control over its subsidiaries and describes its Board of Directors' role in controlling, monitoring, and managing subsidiaries:

"TH's board of directors and management are responsible for establishing, implementing and maintaining an adequate internal control system. The purpose is to reasonably ensure that operational effectiveness and efficiency (including income, performance, and asset safety) and reporting are reliable, timely, and transparent, as well as to ensure compliance with relevant regulations and laws."

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<sup>12</sup> See 2020 Annual Report at 4, 83.

<sup>13</sup> Annual Report at 12.

<sup>14</sup> *Id.*

“The criteria adopted by the Regulations identify 5 components of internal control based on the process of management control: 1. control environment; 2. risk assessment; 3. Control activities; 4. information and communication; and 5. monitoring operations. Each key component includes several items.”

“In accordance with the aforementioned evaluation, the Company has found that the design and implementation of the internal control system (including the assessment and management of subsidiaries), as of December 31, 2020, including the efficacy of understanding operations, the efficiency of achievement of objectives, reliability in reporting, timeliness, and compliance with the relevant guidelines and laws, are effective.”<sup>15</sup>

19. Adlink’s consolidated financial statements also reflect Adlink’s dominance and control over its U.S. subsidiaries. “The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company (its subsidiaries).”<sup>16</sup> This includes Adlink’s U.S. subsidiary Ampro ADLINK Technology Inc. , and ADLINK China.

20. Adlink’s subsidiaries’ revenues are rolled up to, and included in Adlink’s consolidated financial statements. Adlink derives substantial revenue and profits from its subsidiaries’ activities, including its U.S. subsidiary Ampro ADLINK Technology Inc., and ADLINK China.

21. On information and belief, Adlink holds the Adlink conglomerate out publicly as a single entity or collective, such as consistently referring to it as “ADLINK” or “The Company” in press releases directed or relating to the U.S. market.<sup>17</sup>

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<sup>15</sup> Annual Report at 38.

<sup>16</sup> Adlink Technology Inc. and Subsidiaries Consolidated Financial Statements for the Years Ended December 31, 2019 and 2018 (“Consolidated Financial Report”) at 15.

<sup>17</sup> See ADLINK and PNY form Key Partnership on AI Portfolios for Embedded Computing (San Jose, CA Aug. 6, 2020), <https://www.adlinktech.com/en/news/ADLINK-PNY-Key-Partnership-AI-Embedded-Computing>

22. Adlink owns and controls the website [www.adlinktech.com](http://www.adlinktech.com), which contains corporate, contact, and other information for Adlink's subsidiary in the U.S., Ampro ADLINK Technology, Inc.<sup>18</sup> On information and belief, Adlink does not have a separate website for its U.S. subsidiary nor for sales to consumers in the United States.

23. Adlink's website has a shopping portal through which customers can browse through and request quotes for products sold by Adlink and its subsidiaries.<sup>19</sup> Adlink's website includes a "Where to Buy" page that directs consumers in the United States to Adlink's retailers, resellers, and other "sales partners."<sup>20</sup> Includes in this list of sales partners is: Avnet, Inc., which has offices in Austin, Texas;<sup>21</sup> Edge Electronics, which has sales representatives in Texas;<sup>22</sup> and Mouser Electronics Inc., which is headquartered in Mansfield, Texas.<sup>23</sup> On information and belief, through at least these avenues, Adlink has offered to sell and has sold products accused of infringing the ACQIS Patents in the United States, the State of Texas, and within this District, during the times relevant to this Complaint.

## JURISDICTION AND VENUE

24. This is an action for patent infringement under the United States patent laws, 35 U.S.C. § 101 *et seq.*

25. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

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<sup>18</sup> *E.g.*, <https://www.adlinktech.com/en/contactus>

<sup>19</sup> *See* <https://www.adlinktech.com/Products/RequestQuote?lang=en>

<sup>20</sup> *See* <https://www.adlinktech.com/en/wheretobuy>

<sup>21</sup> *See* <https://www.adlinktech.com/en/wheretobuy> and <https://www.avnet.com/wps/portal/us/about-avnet/locations/>

<sup>22</sup> *See* <https://www.adlinktech.com/en/wheretobuy> and <https://www.edgeelectronics.com/aboutus.html>

<sup>23</sup> *See* <https://www.adlinktech.com/en/wheretobuy> and <https://www.mouser.com/manufacturer/adlink/>

26. This Court has personal jurisdiction over Defendants consistent with the requirements of the Due Process Clause of the United States Constitution and the Texas Long Arm Statute.

27. As alleged above, Defendants have purposefully manufactured and/or distributed computer products that infringe the ACQIS Patents, or that were made abroad using patented processes claimed in the ACQIS Patents, through established distribution channels with the expectation that those products would be sold in the United States, State of Texas, and in this District.

28. Further, Defendants have (itself and/or through the activities of subsidiaries, affiliates, or intermediaries) committed acts of patent infringement in the United States, State of Texas and this District, including by making, using, offering to sell, and/or selling infringing computer products in the United States, State of Texas and this District; importing infringing computer products and/or computer products made abroad using ACQIS's patented processes into the United States for sale in the State of Texas and this District; and/or inducing others to commit acts of patent infringement in the United States, State of Texas and this District.

29. Accordingly, Defendants have established minimum contacts within Texas and purposefully availed themselves of the benefits of Texas, and the exercise of personal jurisdiction over Defendants would not offend traditional notions of fair play and substantial justice. In addition, this Court has personal jurisdiction over Defendants pursuant to Federal Rule of Civil Procedure 4(k)(2). *See, e.g., ACQIS LLC v. Lenovo Group Ltd. et al.*, 572 F. Supp. 3d 291, 302-307 (W.D. Tex. Nov. 16, 2021) (denying motion to dismiss for lack of personal jurisdiction as to served defendants).

30. Venue is proper in this District pursuant to 28 U.S.C. § 1391(c)(3) because, in addition to the direct and/or indirect infringement caused by Defendants, Defendants do not reside in the



United States and thus may be sued in any judicial district in the United States pursuant to 28 U.S.C. § 1391(c)(3).

31. Venue is also appropriate because the patents asserted in this case have been previously asserted in cases before this Court. *See, e.g., ACQIS LLC v. Quanta Computer, Inc.*, 6:2023-cv-265. Certain of these patents will be the subject of a trial scheduled to be held in this District in March 2024. *ACQIS LLC v. ASUSTeK*, No. 6:2020-cv-966. It would serve the interests of judicial efficiency for this case to be litigated in this District. *See ACQIS LLC v. MiTac Computing Tech. Corp.*, No. W-20-cv-00962-ADA, 2021 U.S. Dist. LEXIS 197938, 2021 WL 4805431 (W.D. Tex., Oct. 14, 2021) (describing four pending cases and denying motion to transfer venue).

## **FACTUAL BACKGROUND**

### **Dr. Chu and the ACQIS Patents**

32. Dr. William Chu has been a prolific innovator in the computing industry since the 1970s.

33. In 1976, Dr. Chu received his Ph.D. in Electrical Engineering from the University of California, Berkeley. Dr. Chu then began working in semiconductor design for American Microsystems, Inc. from 1976 to 1977, and then for Zilog, Inc. from 1977 to 1982.

34. In 1982, Dr. Chu founded Verticom, Inc., which developed innovative technologies relating to video transmission over telephone lines. Verticom also developed graphics products for the PC computer-aided design (CAD) market. Verticom's success resulted in its stock being listed on the NASDAQ exchange in 1987. In 1988, Verticom was acquired by Western Digital Imaging, Inc.

35. Dr. Chu served as Vice President of Engineering for Western Digital from 1988 to 1991, overseeing a development team in the desktop and portable graphics chip division. In the

course of his work at Western Digital, Dr. Chu in 1988 started the company's portable graphics chip business, which became #1 in the portable graphics chip market by 1991. Dr. Chu also led Western Digital to achieve the #1 market share in the PC graphics market in 1990.

36. After Western Digital, Dr. Chu worked for Acumos, Inc. from 1991 to 1992 as a Vice President managing engineering for computer graphics chip development. Acumos was acquired by Cirrus Logic, Inc. in 1992.

37. Dr. Chu then worked for Cirrus Logic from 1992 to 1997, first as a General Manager in the Desktop Graphics Division and later as Co-President of the Graphics Chip Business Unit. During Dr. Chu's time at Cirrus Logic, the company achieved #1 market share in the PC graphics chip market.

38. In 1998, Dr. Chu founded ACQIS Technology, Inc. to pursue his vision of developing a small, portable computer module that could be interchangeably connected with a variety of different peripheral consoles. In the course of this development effort, Dr. Chu recognized the need for a better interconnection between the core computing module and a peripheral console. Such interconnections traditionally conveyed peripheral component interconnect (PCI) bus transactions in parallel using a large number of signal channels and connector pins. This made it difficult to employ LVDS channels, which are more "cable friendly," consume less power, and generate less noise. Dr. Chu wanted to develop an interconnection system that was scalable, used connectors with low pin counts, was power-efficient, high performing, and easily extendible for future computing needs and technologies. This development work resulted in a large family of patents now owned by ACQIS, which disclose and claim a variety of pioneering inventions relating to improved, high-performance and low-power consuming interconnection technologies for computer modules.

39. After several decades in the industry, Dr. Chu is now a named inventor of over forty U.S. Patents.

40. Among the patent portfolio covering Dr. Chu's inventions and owned by ACQIS are the ACQIS Patents asserted in this case.

41. The '768 patent, entitled "Computer System Including CPU or Peripheral Bridge Directly Connected to a Low Voltage Differential Signal Channel that Communicates Serial Bits of a Peripheral Component Interconnect Bus Transaction in Opposite Directions," was duly and legally issued on December 27, 2016, from a patent application filed March 13, 2014, with William W.Y. Chu as the sole named inventor. The '768 patent claims priority to U.S. Provisional Patent Application No. 60/134,122, filed on May 14, 1999.

42. The '750 patent, entitled "Computer System Including CPU or Peripheral Bridge Directly Connected to a Low Voltage Differential Signal Channel that Communicates Serial Bits of a Peripheral Component Interconnect Bus Transaction in Opposite Directions," was duly and legally issued on July 11, 2017, from a patent application filed October 9, 2014, with William W.Y. Chu as the sole named inventor. The '750 patent claims priority to U.S. Provisional Patent Application No. 60/134,122, filed on May 14, 1999.

43. The '359 patent, entitled "Computer System Including CPU or Peripheral Bridge to Communicate Serial Bits of Peripheral Component Interconnect Bus Transaction and Low Voltage Differential Signal Channel to Convey the Serial Bits," was duly and legally issued on June 17, 2014, from a patent application filed January 17, 2013, with William W.Y. Chu as the sole named inventor. The '359 patent claims priority to U.S. Provisional Patent Application No. 60/134,122, filed on May 14, 1999.

44. The '977 patent, entitled "Computer System Including CPU or Peripheral Bridge to Communicate Serial Bits of Peripheral Component Interconnect Bus Transaction and Low Voltage Differential Signal Channel to Convey the Serial Bits," was duly and legally issued on January 7, 2014, from a patent application filed July 27, 2012, with William W.Y. Chu as the sole named inventor. The '977 patent claims priority to U.S. Provisional Patent Application No. 60/134,122, filed on May 14, 1999.

45. The '739 patent, entitled "Data Security Method and Device for Computer Modules," was duly and legally issued on January 28, 2014, from a patent application filed May 21, 2013, with William W.Y. Chu as the sole named inventor. The '739 patent is a reissue of U.S. Patent No. 6,643,777, which issued on November 4, 2003, from a patent application filed May 14, 1999. The '739 patent claims priority to U.S. Patent Application No. 09/312,199, filed on May 14, 1999.

46. The '797 patent, entitled "Method of Improving Peripheral Component Interface Communications Utilizing a Low Voltage Differential Signal Channel," was duly and legally issued on March 10, 2015, from a patent application filed October 10, 2012, with William W.Y. Chu as the sole named inventor. The '797 patent claims priority to U.S. Provisional Patent Application No. 60/134,122, filed on May 14, 1999.

47. The '140 patent, entitled "Data Security Method and Device for Computer Modules," was duly and legally issued on September 16, 2014, from a reissue application filed December 17, 2013, with William W.Y. Chu as the sole named inventor. The '140 patent is a reissue of U.S. Patent No. 6,643,777, which issued on November 4, 2003, from a patent application filed May 14, 1999. The '140 patent claims priority to U.S. Patent Application No. 09/312,199, filed on May 14, 1999.

48. The '654 patent, entitled "Data Security Method and Device for Computer Modules," was duly and legally issued on December 17, 2013, from a reissue application filed October 10, 2012, with William W.Y. Chu as the sole named inventor. The '654 patent is a reissue of U.S. Patent No. 6,643,777, which issued on November 4, 2003, from a patent application filed May 14, 1999. The '654 patent claims priority to U.S. Patent Application No. 09/312,199, filed on May 14, 1999.

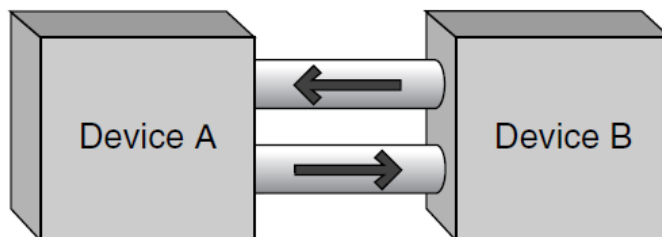
49. The '436 patent, entitled "Computer System Including Peripheral Bridge to Communicate Serial Bits of Peripheral Component Interconnect Bus Transaction and Low Voltage Differential Signal Channel to Convey the Serial Bits," was duly and legally issued on July 31, 2012, from a continuation of application No. 12/504,534, filed on Jul. 16, 2009, with William W.Y. Chu as the sole named inventor. The '436 patent claims priority to U.S. Provisional Patent Application No. 60/134,122, filed on May 14, 1999.

50. The inventions claimed in the ACQIS Patents enable computers to operate faster with better efficiency through faster interconnections including between the core computing power modules and any connected consoles.

51. The claims in the ACQIS Patents generally relate to computers and computer systems that employ CPUs coupled to LVDS channels that convey various types of data (*e.g.*, PCI bus transactions, USB 3.x data, and/or digital video data) in a serial bit stream using pairs of unidirectional channels to convey the data in opposite directions.

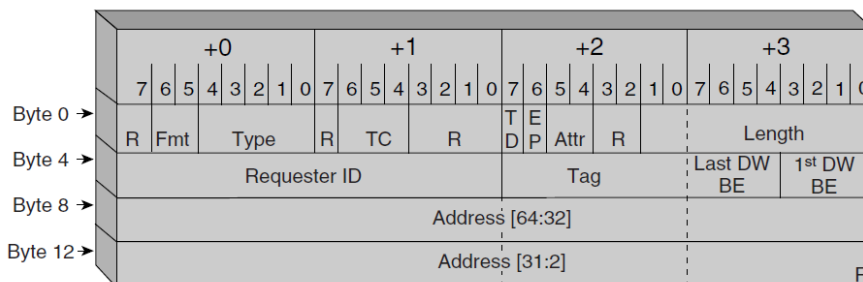
52. Over the years, Dr. Chu's inventive developments have become more and more widely used in computing technologies. One prime example is the computing industry's adoption of PCI Express, which post-dates Dr. Chu's inventions but embodies Dr. Chu's patented interconnection

invention by using “high speed, low voltage, differential serial pathway for two devices ... to communicate simultaneously by implementing dual unidirectional paths between two devices[.]”



*See Introduction to PCI Express – A Hardware and Software Developers Guide*, Intel Press (2003), at 1-2 (“There are certain times in the evolution of technology that serve as inflection points that forever change the course of events. For the computing sector and communications, the adoption of PCI Express, a groundbreaking new general input/output architecture, will serve as one of these inflection points.”).

53. PCI Express connections transmit data packets known as transaction layer packets (TLP) that include data bits, address bits, and byte enable (BE) information bits.



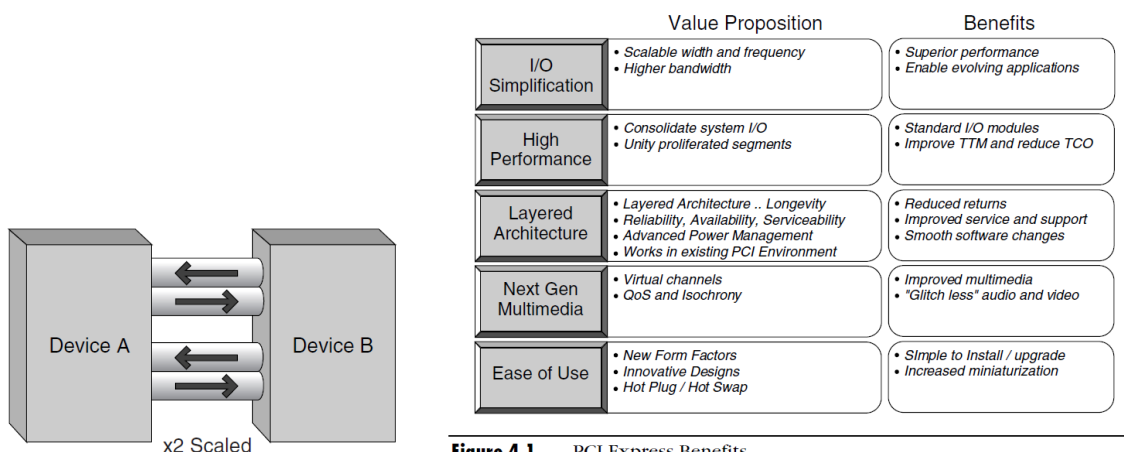
*Id.* at 93-114.

54. PCI Express “establishes a unique divergence from historical PCI evolutions through a layered architecture improving serviceability and scalability as well as easing software transitions through backward compatibility.”<sup>24</sup> The compatibility of PCI Express with PCI can be

<sup>24</sup> Adam H. Wilen, Justin P. Schade, Ron Thornburg. *INTRODUCTION TO PCI EXPRESS - A HARDWARE AND SOFTWARE DEVELOPER’S GUIDE*, Intel Press, 2003, pages 51-52.

further explained as follows: “PCI Express employs the same usage model and load-store communication model as PCI and PCI-X. It supports familiar transactions such as memory read/write, IO read/write and configuration read/write transactions. The memory, IO, and configuration address space model is the same as PCI and PCI-X address spaces. By maintaining the address space model, existing OS and driver software will run in a PCI Express system without any modifications. In other words, PCI Express is software backward compatible with PCI and PCI-X systems. In fact a PCI Express system will boot an existing OS with no changes to current drivers and application programs. Even PCI/ACPI power management software will still run.”<sup>25</sup>

55. In sum, PCI Express connections are LVDS channels that convey data bits, address bits, and byte enable information bits of a PCI bus transaction in a serial bit stream using pairs of unidirectional, differential signal lanes to convey the information in opposite directions allowing the connection to be scalable and dramatically reducing the pin-count required for connectors, as well as other benefits. “Currently PCI Express defines the following configuration of serial links: x1, x2, x4, x8, x12, x16, and x32. ... An x2 configuration indicates two serial paths to and from a device[.]”



**Figure 4.1** PCI Express Benefits

<sup>25</sup> Ravi Budruk, et al., PCI EXPRESS SYSTEM ARCHITECTURE, 400, (MindShare Inc., 2004) at 11.

*Id.* at 3, 50.

56. Another example of a computer-to-peripheral interconnection that embodies Dr. Chu's patented invention is the USB 3.x connection. The "Super Speed" USB 3.0 architecture uses at least two pairs of unidirectional, point-to-point differential signal paths. Each pair includes a transmit path and a receiving path, thus transmitting the USB data packet information in opposite directions.

<b>3.1.4 USB 3.0 Architecture Summary</b>		
USB 3.0 is a dual-bus architecture that incorporates USB 2.0 and a SuperSpeed bus. Table 3-1 summarizes the key architectural differences between SuperSpeed USB and USB 2.0.		
<b>Table 3-1. Comparing SuperSpeed to USB 2.0</b>		
<b>Characteristic</b>	<b>SuperSpeed USB</b>	<b>USB 2.0</b>
Data Rate	SuperSpeed (5.0 Gbps)	low-speed (1.5 Mbps), full-speed (12 Mbps), and high-speed (480 Mbps)
Data Interface	Dual-simplex, four-wire differential signaling separate from USB 2.0 signaling Simultaneous bi-directional data flows	Half-duplex two-wire differential signaling Unidirectional data flow with negotiated directional bus transitions
Cable signal count	Six: Four for SuperSpeed data path Two for non-SuperSpeed data path	Two: Two for low-speed/full-speed/high-speed data path
Bus transaction protocol	Host directed, asynchronous traffic flow Packet traffic is explicitly routed	Host directed, polled traffic flow Packet traffic is broadcast to all devices.

*Universal Serial Bus 3.0 Specification*, Rev. 1.0 (Nov. 12, 2008), at 3.1 to 3.5. USB 3.x ports operate in conformance with all USB protocols, including USB 2.0 protocols and USB 3.0 or later protocols, which are backward compatible with the USB 2.0 protocol. In sum, USB 3.x connections are LVDS channels using two unidirectional, differential signal pairs that transmit USB protocol data packets in opposite directions.

57. The Direct Media Interface ("DMI") is similar to PCIe and implements at least four serial lanes that all use differential signaling constituting 2 transmit lanes and 2 receive lanes and, therefore, transmitting data in opposite directions. See <https://www.intel.com/content/dam/www/public/us/en/documents/white-papers/ia-introduction-basics-paper.pdf>; see also [https://en.wikipedia.org/wiki/Direct\\_Media\\_Interface](https://en.wikipedia.org/wiki/Direct_Media_Interface) ("DMI shares



many characteristics with PCI Express, using multiple lanes and differential signaling to form a point-to-point link.”).

58. The On-Package Interface (OPI) is like DMI but is used when a CPU and system controller are integrated into a single system-on-a-chip (“SoC”). *See, e.g.,* <https://web.archive.org/web/20170106002415/https://www.anandtech.com/show/10959/intel-launches-7th-generation-kaby-lake-i7-7700k-i5-7600k-i3-7350k/5>.

59. Additional interfaces that employ LVDS channels include, but are not limited to, DisplayPort<sup>26</sup>, Embedded DisplayPort (“eDP”)<sup>27</sup>, Serial-Attached SCSI (“SAS”)<sup>28</sup>, and Serial ATA or Serial AT Attachment (“SATA”)<sup>29</sup>.

60. The physical layer of PCI Express includes PLL circuitry. *See* PCI Express Base Specification Revision 3.0, Section 1.5.3, page 49 (physical Layer “includes all circuitry for interface operation, including driver and input buffers, parallel-to-serial and serial-to-parallel conversion, PLL(s), impedance matching circuitry” as well as “logical functions related to interface initialization and maintenance”). The figure below also shows the use of PLL circuitry:

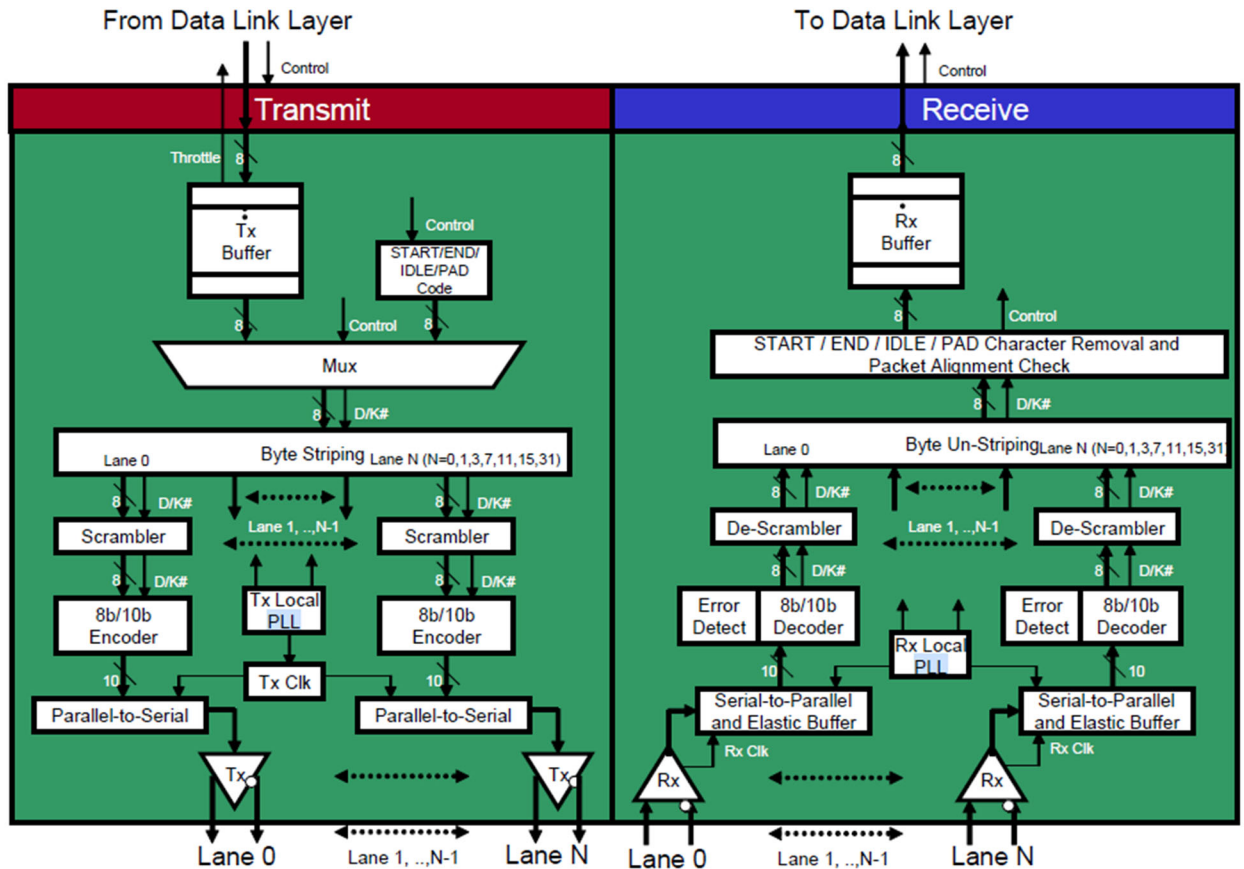
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<sup>26</sup> Tektonix, THE BASICS OF SERIAL DATA COMPLIANCE AND VALIDATION MEASUREMENTS – PRIMER, page 9.

<sup>27</sup> eDP is a display panel interface standard that defines the signaling interface between CPUs/GPUs and integrated displays. It is based on the existing DisplayPort standard. Essentially, it is an embedded version of the DisplayPort standard oriented toward applications, such as notebooks and All-In-One PCs. Like DisplayPort, it consists of the Main Link, Auxiliary channel, and an optional Hot-Plug Detect signal. *See* <https://edc.intel.com/content/www/us/en/design/ipla/software-development-platforms/client/platforms/alder-lake-desktop/12th-generation-intel-core-processors-datasheet-volume-1-of-2/003/embedded-displayport-edp/>.

<sup>28</sup> HP. *Serial ATA and Serial Attached SCSI technologies*. TECHNOLOGY BRIEF, 2003, page 5. Available at <http://h10032.www1.hp.com/ctg/Manual/c00256909.pdf>.

<sup>29</sup> HP. *Serial ATA and Serial Attached SCSI technologies*. TECHNOLOGY BRIEF, 2003, page 5. Available at <http://h10032.www1.hp.com/ctg/Manual/c00256909.pdf>; Tektonix, THE BASICS OF SERIAL DATA COMPLIANCE AND VALIDATION MEASUREMENTS – PRIMER, page 9.



Ravi Budruk, *et al.*, PCI EXPRESS SYSTEM ARCHITECTURE, 454, (MindShare Inc., 2004), page 401.

61. Each claim of the ACQIS Patents is a patentable, valid and enforceable invention that is novel and non-obvious over the prior art.

62. ACQIS has not authorized or licensed Defendants to practice any of the inventions claimed in the ACQIS Patents.

### **Defendants' Infringing Products**

63. Defendants make and sell a variety of computer products, including desktops, servers, motherboards, computer-on-modules, mobile computers, panel PCs, and embedded PCs, among other products. Defendants import these infringing computer products, as well as computer products made using infringing processes, into the United States and into this judicial District,

through established distribution channels with the expectation that those products would be sold in the United States, State of Texas, and this District.

64. Defendants have directly infringed one or more claims of each of the ACQIS Patents under at least 35 U.S.C. §§ 271(a) and (g), by making, using, offering to sell, and/or selling within the United States, and/or importing into the United States, computer products that embody the claimed inventions of Dr. Chu, and/or by importing into, and/or using, offering to sell, and/or selling in, the United States computer products that were made abroad using patented processes claimed in the ACQIS Patents.

65. Furthermore, Defendants have indirectly infringed one or more claims of each of the ACQIS Patents under at least 35 U.S.C. § 271(b), by inducing third parties to make, use, offer to sell, and/or sell within the United States, and/or import into the United States computer products that embody the claimed inventions of Dr. Chu, and/or by importing into, and/or using, offering to sell, and/or selling in, the United States computer products that were made abroad using patented processes claimed in the ACQIS Patents, with knowledge of the ACQIS Patents, knowledge that it would induce the direct infringement of others, and specific intent to cause the infringement.

66. Defendants make, use, import, sell, and/or offer to sell a variety of computer products, including but not limited to the product categories identified above, in the United States that infringe one or more of the claims in the ACQIS Patents, and/or import into, and/or use, offer to sell, and/or sell in, the United States computer products that were made abroad using patented processes claimed in the ACQIS Patents. These products are collectively referred to as the “Accused Adlink Products.”

67. On information and belief, Defendants manufacture and tests (or, pursuant to Defendants' designs and instructions, have manufactured and tested) at least certain of the Accused Adlink Products abroad and use, offer to sell, and/or sell such products in the United States, and/or import such products into the United States.

68. On information and belief, at least certain of the Accused Adlink Products that Defendants import into the United States are manufactured outside the United States using one or more processes claimed in the ACQIS Patents.

69. The Accused Adlink Products include products made, used, offered for sale, sold within the United States, and/or imported into the United States, at least since ACQIS provided Defendants actual notice of its infringement on or around April 30, 2013.

70. The Accused Adlink Products also include any product made, used, offered for sale, sold within the United States, and/or imported into the United States, from April 30, 2013, to the termination date of each respective patent, which incorporates PCI Express, USB 3.0 or later, and/or substantially similar communication channels (*e.g.*, Intel OPI and/or DMI channels)

71. The Accused Adlink Products also include products made using the processes claimed in the ACQIS Patents and imported into the United States within the six years preceding the date of this Complaint.

72. On information and belief, all of the Accused Adlink Products are configured and operate in substantially the same way for purposes of infringement as explained below using the MXC-6400 Series embedded computer as an example for illustrative purposes.

73. The MXC-6400 Series embedded computer is a computer system that runs the Windows 10, Windows 7, Embedded Standard 7, or Linux Ubuntu 16.04 LTS or operating system.

## Software Support

- Win10/Win7/Embedded Standard 7
- Linux® Ubuntu 16.04 LTS

[https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400\\_Series\\_datasheet-en\\_20180706.pdf](https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400_Series_datasheet-en_20180706.pdf).

74. The MXC-6400 Series embedded computer uses an Intel® Core processor, such as the i5-6440EQ processor, which is mounted on a motherboard.

## Ordering Information

- **MXC-6401D**  
Intel® Core™ i7-6820EQ, 4GB DDR4 SODIMM
- **MXC-6402D**  
Intel® Core™ i5-6440EQ, 4GB DDR4 SODIMM
- **MXC-6403D**  
Intel® Core™ i3-6100E, 4GB DDR4 SODIMM

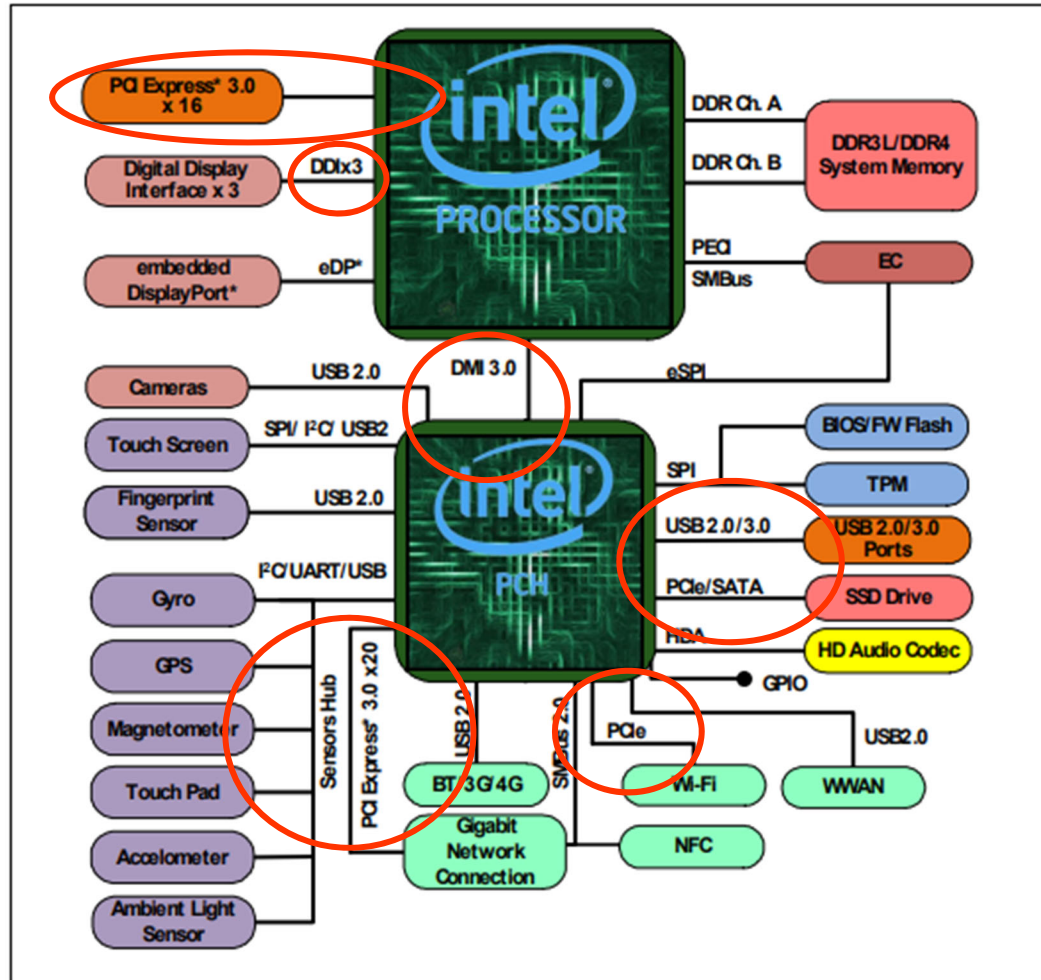
[https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400\\_Series\\_datasheet-en\\_20180706.pdf](https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400_Series_datasheet-en_20180706.pdf).

75. These processors are also known as the “Skylake” family of processors, Intel’s 6<sup>th</sup> Generation Intel® Core™ i5 Processors. *See, e.g.,* <https://ark.intel.com/content/www/us/en/ark/products/90425/intel-core-i5-6440eq-processor-6m-cache-up-to-3-40-ghz.html> (specifications for the Intel® Core™ i5-6440EQ processors, and identifying them as 6th Generation Intel® Core™ i5 Processors, products formerly known as “Skylake”).

76. The 6th Generation Intel® Core™ processors integrate the central processing unit (CPU) with a graphics subsystem and an interface controller on a single chip. On information and

belief, the Intel Core processors integrate one or more integrated interface controllers, such as to drive the PCIe channels connected to the processor.

**Figure 1-1. S-Processor Line Platforms**



<https://www.intel.com/content/www/us/en/content-details/332687/6th-generation-intel-core-processor-family-datasheet-volume-1.html>, at, e.g., 12.

- 1 PCI and 2 PCIe Gen3 x8 (or 1 PCIe Gen3 x16) slots
- Support for 3 independent displays via 2 DisplayPort and 1 DVI-I ports with resolution up to 4K UHD
- 6 USB 3.0 ports and 1 internal USB 2.0 wafer connector
- 2 hot-swappable SATA III trays on the front panel and 2 internal SATA III ports with RAID 0/1/5/10 support

Video	2 DisplayPort (4K2K resolution) 1 DVI-I
-------	--------------------------------------------

[https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400\\_Series\\_datasheet-en\\_20180706.pdf](https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400_Series_datasheet-en_20180706.pdf).

#### Expansion Options

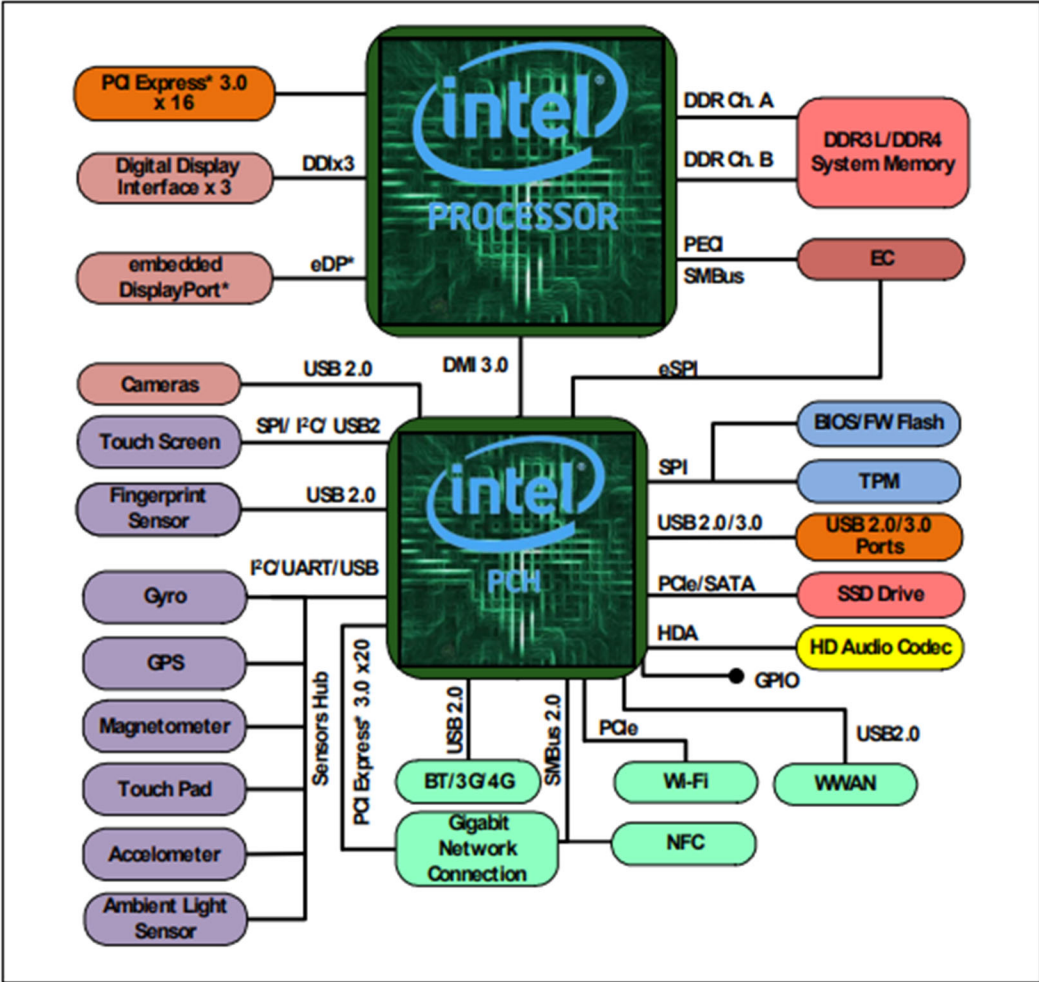
PCI Express Revision ?	3.0
PCI Express Configurations ‡ ?	Up to 1x16, 2x8, 1x8+2x4
Max # of PCI Express Lanes ?	16

<https://ark.intel.com/content/www/us/en/ark/products/90425/intel-core-i5-6440eq-processor-6m-cache-up-to-3-40-ghz.html>.

77. The MXC-6400 Series comprises a chassis or enclosure which houses one or more connectors that can couple to components of other computer systems and consoles, including USB3.x ports.



Figure 1-1. S-Processor Line Platforms



<https://www.intel.com/content/www/us/en/content-details/332687/6th-generation-intel-core-processor-family-datasheet-volume-1.html>, at 12; (identifying DDI, USB 3.x, and eDP channels extending from the processor); *id.* at 36 (explaining that the DDI channels can be configured as DisplayPort).

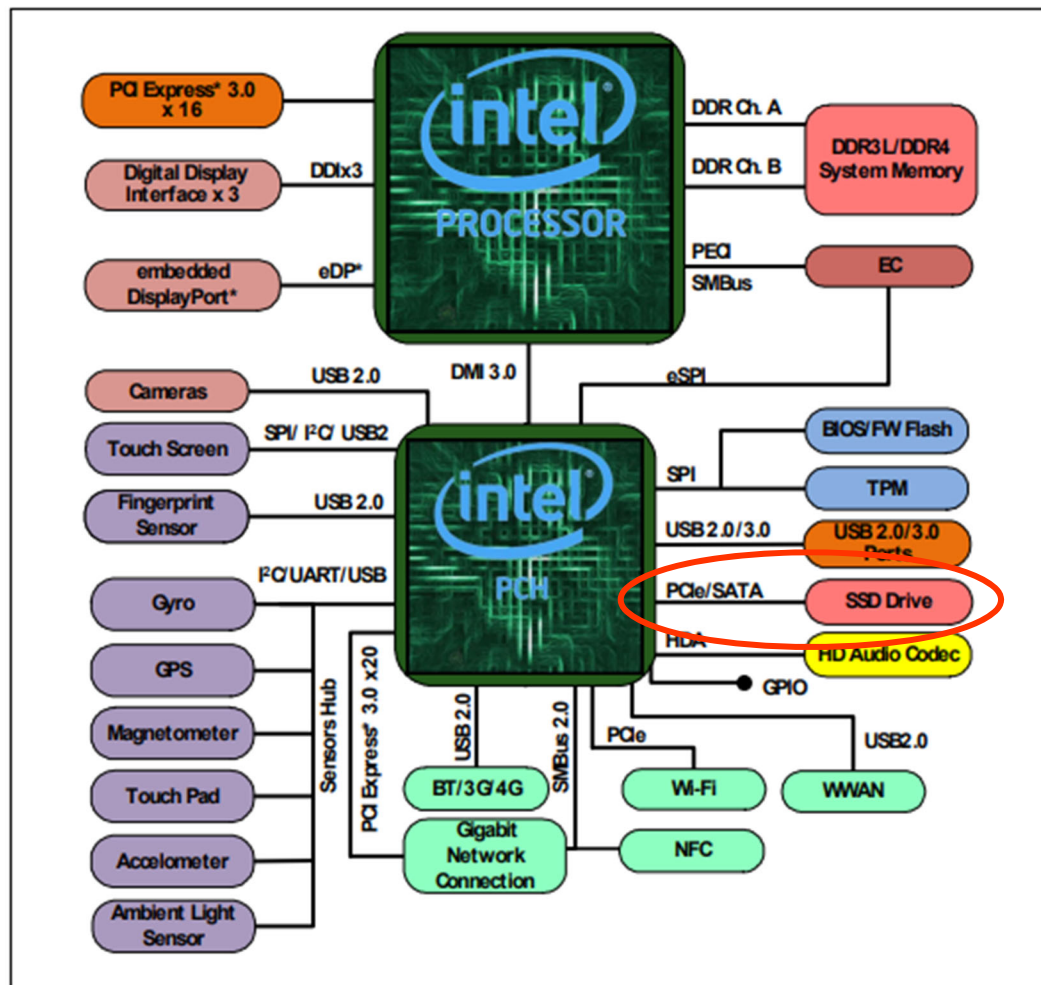
Video	2 DisplayPort (4K2K resolution) 1 DVI-I
-------	--------------------------------------------



I/O Interface	
Expansion slots	1 PCI +2 PCIe Gen3 x8 or 1 PCI + 1 PCIe Gen3 x16 (auto switched)
Mini PCIe	2x full size Mini PCIe
USIM	1 USIM
Ethernet	3x GbE (2 Intel I210IT + 1 I219 PHY)
Serial Ports	COM1/2: RS-232/422/485 COM3/4: RS-232
USB	6 USB 3.0 2 w/ 1600 mA, 4 w/ 900 mA 1 internal USB 2.0 wafer connector

[https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400\\_Series\\_datasheet-en\\_20180706.pdf](https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400_Series_datasheet-en_20180706.pdf).

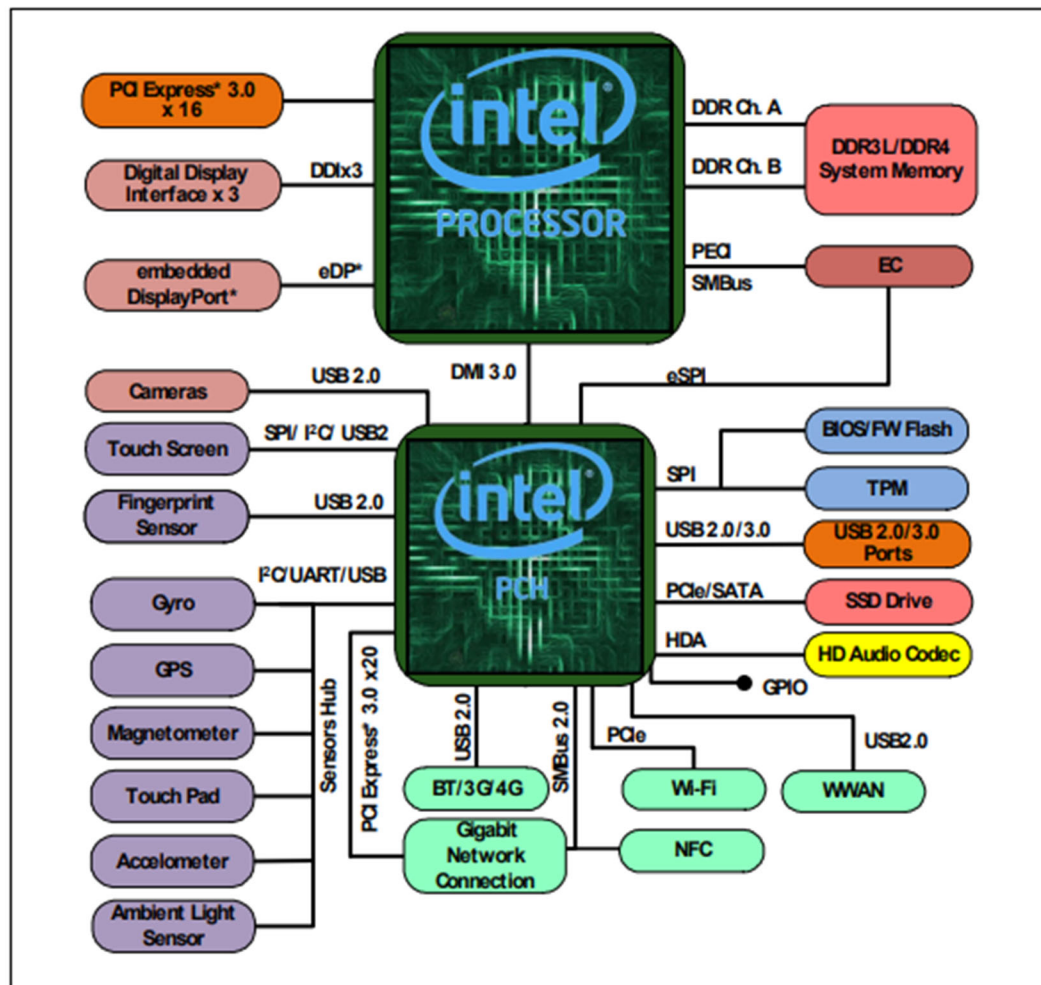
78. The Intel processors employed in the MXC-6400 Series connect directly to a variety of LVDS channels that convey data bits in a serial stream using unidirectional pairs of lanes transmitting data in opposite directions, including PCIe channels, and the directly-connected PCIe channels connect the CPU to a mass storage device.

**Figure 1-1. S-Processor Line Platforms**

<https://www.intel.com/content/www/us/en/content-details/332687/6th-generation-intel-core-processor-family-datasheet-volume-1.html>, at 12.

79. The Intel processors employed in the MXC-6400 Series also connect directly to a variety of differential signal channels that output digital video signals through a connector, including DisplayPort.

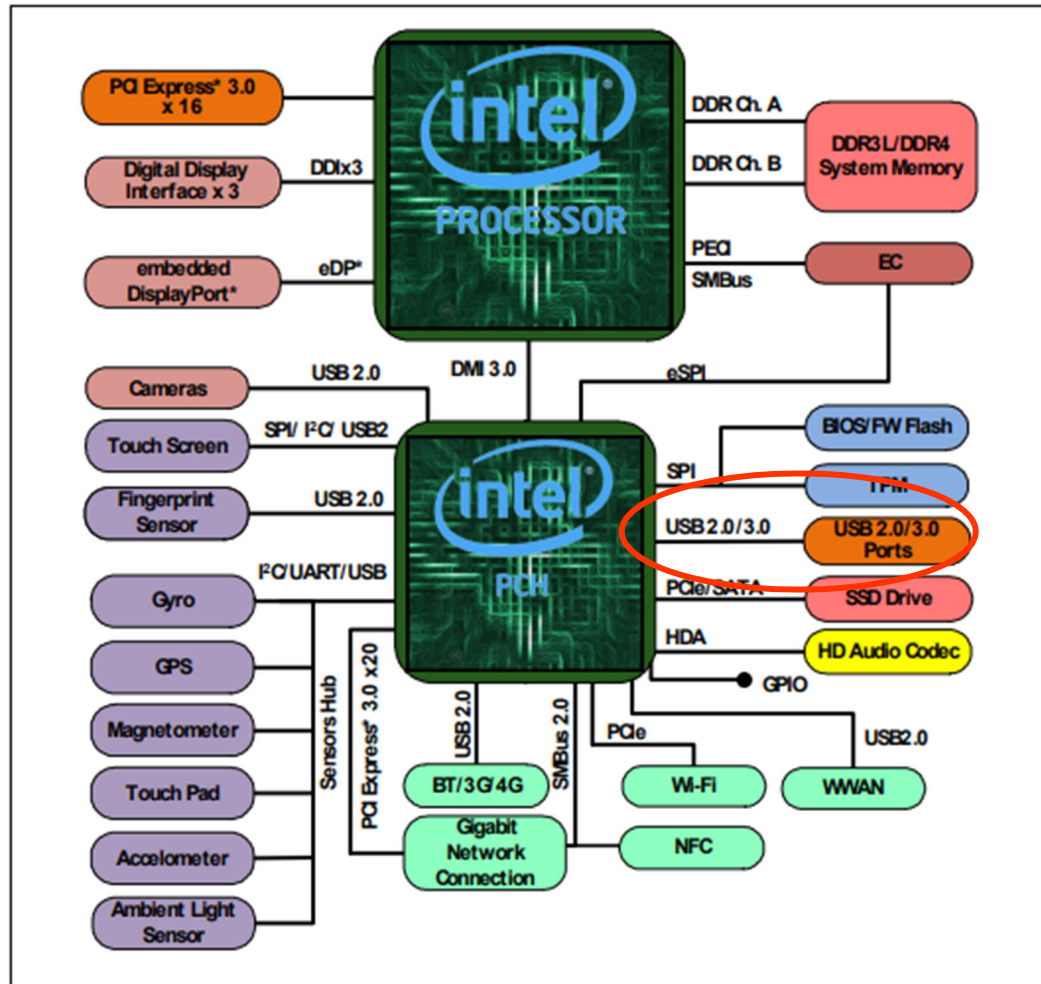
Figure 1-1. S-Processor Line Platforms



<https://www.intel.com/content/www/us/en/content-details/332687/6th-generation-intel-core-processor-family-datasheet-volume-1.html>, at 12; (identifying DDI, USB 3.x, and eDP channels extending from the processor); *id.* at 36 (explaining that the DDI channels can be configured as DisplayPort); *see also* [https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400\\_Series\\_datasheet-en\\_20180706.pdf](https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400_Series_datasheet-en_20180706.pdf) (disclosing DisplayPort and other ports on the product).

80. The Intel processors employed in the MXC-6400 Series also connect to LVDS channels that convey USB data packets through pairs of unidirectional differential signal paths in opposite directions—USB 3.x ports.

**Figure 1-1. S-Processor Line Platforms**



<https://www.intel.com/content/www/us/en/content-details/332687/6th-generation-intel-core-processor-family-datasheet-volume-1.html>, at 12.

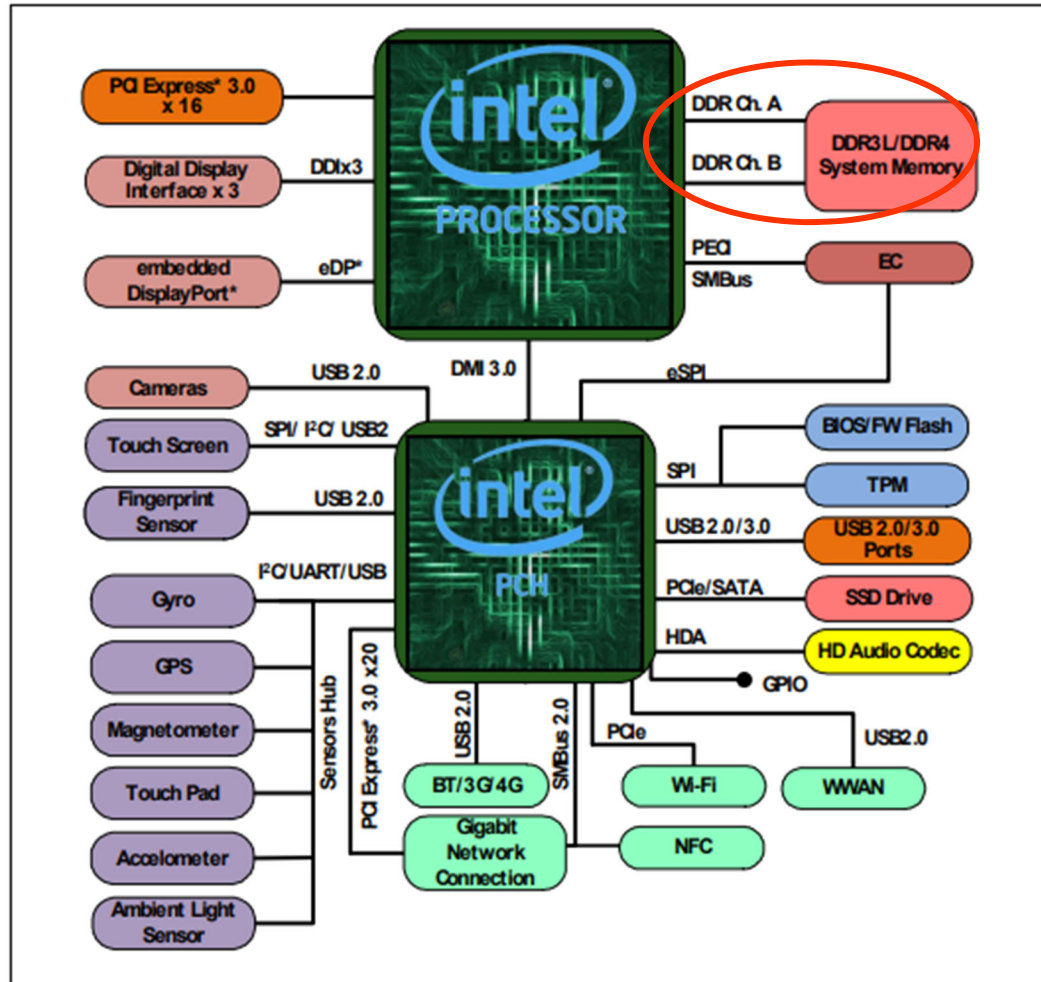
81. The MXC-6400 Series has DDR4 system memory connected directly to the CPU.

Memory

2x DDR4 SODIMM up to 32GB

[https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400\\_Series\\_datasheet-en\\_20180706.pdf](https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400_Series_datasheet-en_20180706.pdf).

**Figure 1-1. S-Processor Line Platforms**



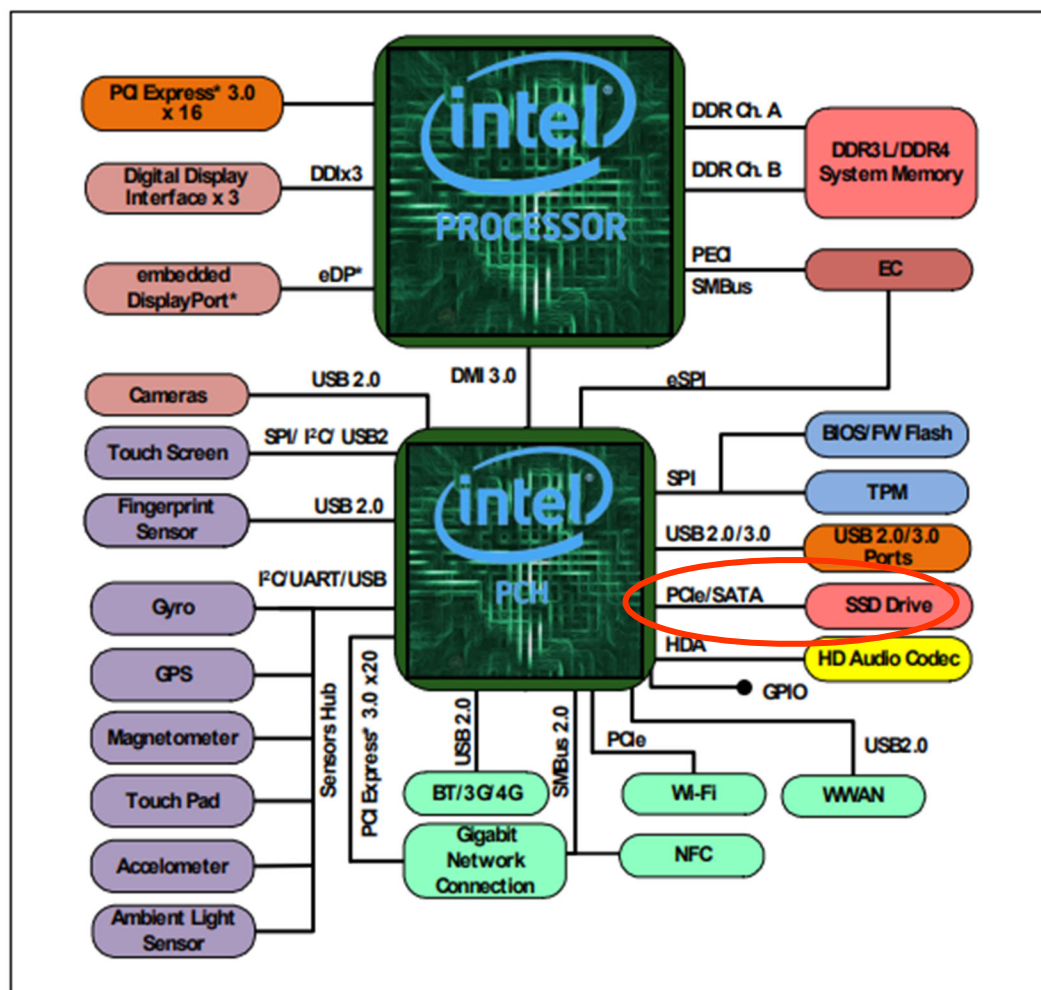
<https://www.intel.com/content/www/us/en/content-details/332687/6th-generation-intel-core-processor-family-datasheet-volume-1.html>, at 12.

82. The MXC-6400 Series has a mass storage drive coupled to the CPU using PCIe.

Storage Device	
2.5" SATA	2x removable drive bays 2x internal (RAID 0/ 1/ 5/ 10)

[https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400\\_Series\\_datasheet-en\\_20180706.pdf](https://www.adlinktech.com/Products/Download.ashx?type=MDownload&isDatasheet=yes&file=1601%5cMXC-6400_Series_datasheet-en_20180706.pdf).

**Figure 1-1. S-Processor Line Platforms**



<https://www.intel.com/content/www/us/en/content-details/332687/6th-generation-intel-core-processor-family-datasheet-volume-1.html>, at 12.



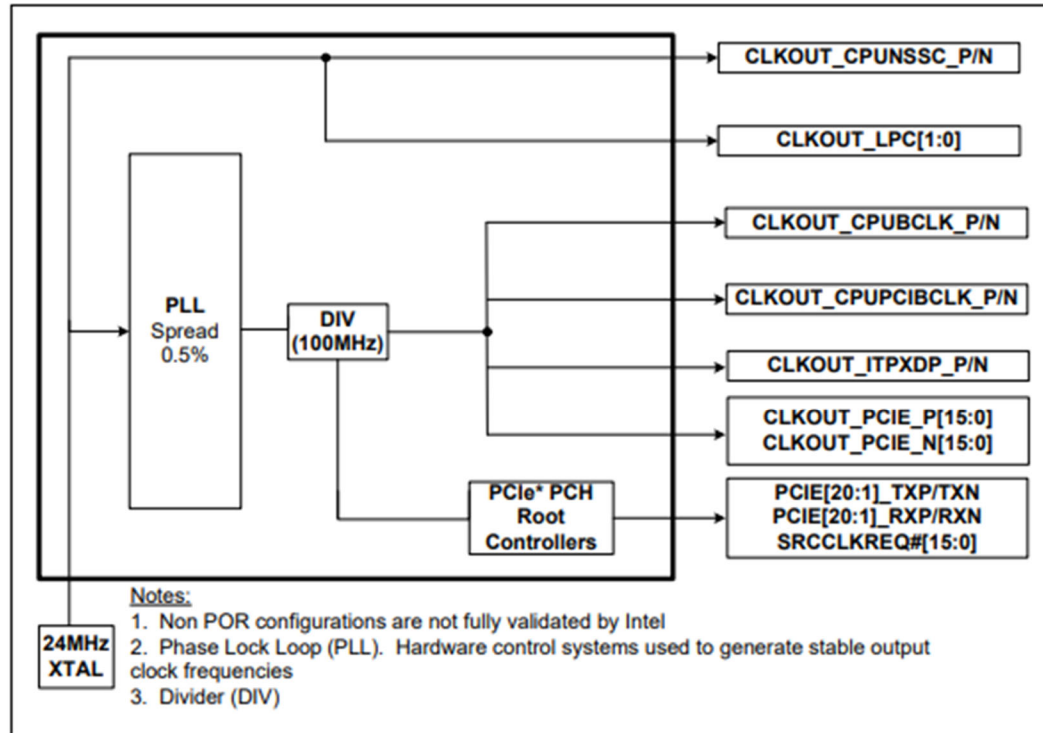
83. The Intel processors used in the MXC-6400 Series have a peripheral bridge called the Platform Controller Hub (PCH) connected to the CPU. Because the PCH is coupled to PCIe, USB 3.x, and other interface connections, they necessarily have integrated interface controllers to control data transmission through those interfaces. *See* <https://www.intel.com/content/www/us/en/content-details/332687/6th-generation-intel-core-processor-family-datasheet-volume-1.html>, at 30 (identifying connection between CPU and PCH as DMI), 39 (depicting connection between CPU and PCH). PCH is the “chipset with centralized platform capabilities including the main I/O interfaces along with display connectivity, audio features, power management, manageability, security, and storage features.” *Id.* at 17.

84. The Intel PCH used in the MXC-6400 Series has an Integrated Clock Controller (ICC) that includes PLL circuitry, which generates different clock frequencies to convey the PCI bus transactions and USB transactions through the PCIe and USB channels based on the different clock frequencies. Because the Intel processors used in the MXC-6400 Series have memory, OPI, display, and/or PCIe connections, and can send and receive data on those connections, they necessarily have integrated interface controllers to control data transmission through those interfaces.

## 25.1 Overview

Platform Controller Hub (PCH) based platforms require several single-ended and differential clocks to synchronize signal operations and data propagations system wide between many interfaces and across multiple clock domains. The PCH generates and provides this complete system clocking solution through its Integrated Clock Controller (ICC).

**Figure 25-1. PCH Internal Clock Diagram**



<https://www.intel.com/content/www/us/en/content-details/332690/intel-100-series-chipset-family-platform-controller-hub-pch-datasheet-volume-1.html>, at 181.



## 25.4 General Features

- The PCH Integrated Clock Controller (ICC) generates and supplies all the PCH reference clocks for internal needs and it provides the complete platform system clocking solution.
- All of the ICC PCH internal reference clocks and all of the single-ended and differential clock outputs are generated from an external 24-MHz crystal through the PCH XTAL24\_IN pin, where the crystal accuracy is required to be less than  $\pm 30$  ppm.  
Note: ppm stands for parts per million, and it indicates how much a crystal's frequency may deviate from the nominal value.
- CLKOUT\_PCIE\_P/CLKOUT\_PCIE\_N 100-MHz PCIe\* 3.0 compliant differential output clocks support CLKREQ# based power management.
- CLKOUT\_LPC[1:0] single-ended output clocks support CLKRUN# based power management, they require no external loop back clock for internal logic, and they only support a single load configuration.
- System Power Management support includes shutdown of all PCH ICC Phase Locked Loops (PLL), PCH ICC internal and external clocks, and includes the shutdown of the external 24-MHz crystal oscillator.

<https://www.intel.com/content/www/us/en/content-details/332690/intel-100-series-chipset-family-platform-controller-hub-pch-datasheet-volume-1.html>, at 183; *see also* Ravi Budruk, et al., PCI EXPRESS SYSTEM ARCHITECTURE, 454, (MindShare Inc., 2004), page 401.

85. In view of the foregoing facts concerning the technical features and functionalities of the Accused Adlink Products (*see* paragraphs 72-84), when Defendants or another party abroad manufacture the Accused Adlink Products, it improves the speed and performance of the peripheral data communication in its computer products by using a method of manufacturing that includes the following steps: (a) obtaining a CPU with a graphics controller in a single chip; (b) connecting one or more unidirectional differential signal channels to the CPU to output digital video data; (c) providing a connector with an LVDS channel to facilitate data communication with external peripherals; (d) providing multiple LVDS channels, connecting them to the CPU, which use one or more pairs of unidirectional lanes that convey USB protocol data and/or address, data, and/or byte enable bits of PCIe bus transaction data in serial bit streams in opposite directions; (e) connecting the CPU directly to a peripheral bridge on a circuit board; and (f) directly connecting

to the peripheral bridge one or more LVDS channels with pairs of unidirectional lanes that convey data in serial bit streams in opposite directions.

86. On information and belief, Defendants or another party perform the foregoing manufacturing steps outside the United States to make at least certain of the Accused Adlink Products, and Defendants then import those Accused Adlink Products into the United States to be marketed and sold.

**ACQIS Provided Adlink Actual Notice of Infringement**

87. On or around April 30, 2013, ACQIS notified Defendants, pursuant to 35 U.S.C. § 287(a), of ACQIS's patent portfolio and Defendants' infringement thereof based on the Accused Adlink Products by way of a letter to ADLINK Technology, Inc. Notice to parent company ADLINK Technology, Inc. constitutes notice to ADLINK China.

88. ACQIS's letter described the enforcement history of ACQIS's patent portfolio, noting its prior lawsuit enforcing ACQIS Patents directed to blade server products and which are related to the presently-asserted ACQIS Patents. ACQIS identified that this prior lawsuit resulted in a significant jury verdict against IBM. ACQIS' letter identified ACQIS's patent portfolio and described the applicability of the ACQIS Patents to Defendants' computer products.

89. ACQIS invited Defendants to discuss potential licensing arrangements to allow Defendants to continue to utilize the patented technologies in the ACQIS patent portfolio.

90. ACQIS received no response to its April 30, 2013 letter, and Defendants continued to make, import, and/or sell, and/or induce others to do the same, the Accused Adlink Products identified in ACQIS's letter in willful violation of ACQIS' patent rights, or at the very least in reckless disregard of ACQIS' patent rights.

91. ACQIS again attempted to negotiate with Adlink, sending letters in September 2020 and March 2021. Despite ACQIS's further attempts to negotiate settlement of Adlink's infringement, Adlink failed to substantively respond or meaningfully engage in negotiation.

92. Upon receiving actual notice of the ACQIS Patents and how they apply to Defendants' computer products, Defendants at the very least ignored the notice and chose to remain willfully blind to its own infringement.

93. Defendants' choice to ignore ACQIS, the ACQIS Patents, and ACQIS' offer to engage in a licensing arrangement for computer products, and instead to continue making and selling the infringing Accused Adlink Products, is egregious and exceptional.

94. Defendants' conduct constitutes willful infringement of the ACQIS Patents, beginning at least as early as the date of receipt of ACQIS's April 30, 2013, letter.

**Defendants' Indirect Infringement**

95. Defendants indirectly infringe the ACQIS Patents under 35 U.S.C. §§ 271(b) and (c) by inducing third parties, such as importers, resellers, customers, and end users, to directly infringe the ACQIS Patents by using, offering for sale, selling and/or importing the Accused Adlink Products in this District and elsewhere in the United States and by importing into the United States and selling the Accused Adlink Products despite knowledge that those products are material parts of a computer system, and are not staple articles of commerce with substantial non-infringing uses. For example, Accused Adlink Products are offered for sale and sold in this District and elsewhere in the United States through retailers and other sellers.

96. Defendants took affirmative acts to induce third parties to commit those direct infringing acts. Defendants did so by, at least, actively promoting the Accused Adlink Products for the U.S. market. For example, on information and belief, for every one of the Accused Adlink

Products sold in the United States, Defendants pursue and obtain approval from U.S. and state regulatory agencies to allow sales of such Accused Adlink Products in the United States. Defendants compete for business in the United States (including by advertising). Further, Defendants' website offers support for U.S. consumers of the Accused Adlink Products.

97. Defendants have taken these acts despite knowledge of the ACQIS Patents and the infringement by the Accused Adlink Products, Defendants know and specifically intend that their customers will sell the infringing Accused Adlink Products in the United States or cause the Accused Adlink Products to be sold in the United States.

98. Defendants' customers directly infringe the ACQIS Patents by importing the Accused Adlink Products into the United States, offering to sell and selling the Accused Adlink Products in the United States, and using the Accused Adlink Products in the United States.

99. Defendants further induce direct infringement of the ACQIS Patents by providing instruction and direction to end users of the Accused Adlink Products about how to use the Accused Adlink Products in a manner that infringes one or more claims of the ACQIS Patents. Defendants know and specifically intend that end users will use the Accused Adlink Products in an infringing manner as directed by Defendants. On information and belief, Defendants have configured the Accused Adlink Products in such a manner that direct infringing use necessarily occurs upon operation of the Accused Adlink Products in their normal, intended manner without any specific action of the end user other than turning on the product.

100. Defendants have induced others' direct infringement as stated above despite actual notice that the Accused Adlink Products infringe the ACQIS Patents, as set forth herein. Defendants therefore have caused others, including their purchasers and end users, to directly infringe the ACQIS Patents with knowledge of the ACQIS Patents and with the specific intent, or

at the very least willful blindness, that others, including the purchasers and end users, will directly infringe. Defendants knew the acts they induced (such as importation, retail sales in the United States, and use by consumers in the United States) constituted infringement.

## **COUNT I INFRINGEMENT OF U.S. PATENT NO. 9,529,768**

101. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its first cause of action as though fully set forth herein.

102. Pursuant to 35 U.S.C. § 282, the claims of the '768 patent are presumed valid.

103. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed one or more claims of the '768 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing the Accused Adlink Products; has induced its customers or end-users to infringe one or more claims of the '768 patent in violation of 35 U.S.C. § 271(b); and/or has contributed to the infringement of one or more claims of the '768 patent in violation of 35 U.S.C. § 271(c).

104. Adlink's infringement of the '768 patent through its manufacture, use, offers to sell, and/or sales in, and/or importation into, the United States of, and/or Adlink's inducement and/or contributory infringement in connection with, the Accused Adlink Products is shown by way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above, which demonstrates infringement of at least claim 13 of the '768 patent by showing:

- (a) the MXC-6400 Series is a computer;
- (b) the MXC-6400 Series has an integrated central processing unit (CPU) and interface controller in a single chip, because the MXC-6400 Series uses 6th Generation Intel® Core™ processors, which include interface controllers (*e.g.*, to drive PCIe channels) and the CPU integrated as a single chip;

- (c) the MXC-6400 Series has a first LVDS channel directly extending from the interface controller to convey address and data bits of a PCI bus transaction in a serial bit stream, wherein the first LVDS channel comprises first unidirectional, multiple, differential signal pairs to convey data in a first direction and second unidirectional, multiple, differential signal pairs to convey data in a second, opposite direction opposite directions through different numbers of differential signal pairs, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series include PCIe channels directly extending from the interface controller;
- (d) the MXC-6400 Series has system memory directly coupled to the integrated CPU and interface controller, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series are directly coupled to DDR4 system memory.

105. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This Section is thus illustrative of the manner in which Adlink infringes the claims of the '768 patent as to each of the Accused Adlink Products.

106. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 13 of the '768 patent, and additional infringed claims will be identified through infringement contentions and discovery.

107. As early as around April 30, 2013, Adlink had actual notice of the patent family of the '768 patent and the type of infringement arguments alleged herein.

108. The above-described acts of infringement committed by Adlink has caused injury and damage to ACQIS and ACQIS' licensees.

109. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

110. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

## **COUNT II INFRINGEMENT OF U.S. PATENT NO. 9,703,750**

111. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its second cause of action as though fully set forth herein.

112. Pursuant to 35 U.S.C. § 282, the claims of the '750 patent are presumed valid.

113. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed one or more claims of the '750 patent in violation of 35 U.S.C. § 271(g) by importing into, or selling, offering to sell, or using in, the United States the Accused Adlink Products that were manufactured by one or more of the methods claimed in the '750 patent, and/or has induced its customers or end-users to infringe one or more claims of the '750 patent in violation of 35 U.S.C. § 271(b).

114. The Accused Adlink Products are not trivial or nonessential components of other products and are not materially changed by subsequent processes.

115. Adlink's infringement of the '750 patent through its importation into, and/or use, offers to sell, or sales in, the United States of, and/or Adlink's inducement in connection with, the Accused Adlink Products is shown by way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above. These paragraphs demonstrate that the MXC-6400 Series was necessarily manufactured according to at least claim 50 of the '750 patent:

- (a) Adlink or another party performs a method of improving external peripheral data communication of a computer when manufacturing the MXC-6400 Series;
- (b) when manufacturing the MXC-6400 Series, Adlink or another party obtains an integrated CPU and graphics controller as a single chip, because the MXC-6400 Series uses 6th Generation Intel® Core™ processors;
- (c) when manufacturing the MXC-6400 Series, Adlink or another party connects a first unidirectional, differential signal pair channel directly to the integrated CPU and graphics controller, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series include numerous PCIe channels directly extending from the interface controller;
- (d) when manufacturing the MXC-6400 Series, Adlink or another party provides a connector for external peripheral data communication, because the MXC-6400 Series has a connector for external peripherals, such as a USB 3.x port; and
- (e) when manufacturing the MXC-6400 Series, Adlink or another party provides an LVDS channel to convey USB protocol data through a connector that uses two unidirectional, serial bit channels that transmit data in opposite directions, because the MXC-6400 Series has a USB 3.x port that conveys USB 3.x data.

116. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This Section is thus illustrative of the manner in which Adlink infringes the claims of the '750 patent as to each of the Accused Adlink Products.



117. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 50 of the '750 patent, and additional infringed claims will be identified through infringement contentions and discovery.

118. As early as around April 30, 2013, Adlink had actual notice of the patent family of the '750 patent and the type of infringement arguments alleged herein.

119. The above-described acts of infringement committed by Adlink have caused injury and damage to ACQIS and ACQIS' licensees.

120. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

121. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

### **COUNT III INFRINGEMENT OF U.S. PATENT NO. 8,756,359**

122. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its third cause of action as though fully set forth herein.

123. Pursuant to 35 U.S.C. § 282, the claims of the '359 patent are presumed valid.

124. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed one or more claims of the '359 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing the Accused Adlink Products; has induced its customers or end-users to infringe one or more claims of the '359 patent in violation of 35 U.S.C. § 271(b); and/or has contributed to the infringement of one or more claims of the '359 patent in violation of 35 U.S.C. § 271(c).

125. Adlink's infringement of the '359 patent through its manufacture, use, offers to sell, and/or sales in, and/or importation into, the United States of, and/or Adlink's inducement and/or contributory infringement in connection with, the Accused Adlink Products is shown by way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above, which demonstrates infringement of at least claim 6 of the '359 patent by showing:

- (a) the MXC-6400 Series is a computer;
- (b) the MXC-6400 Series has a variety of connectors configured to couple to a console, including a USB 3.x port;
- (c) the MXC-6400 Series has a central processing unit (CPU), because the MXC-6400 Series uses 6th Generation Intel® Core™ processors;
- (d) the MXC-6400 Series has a first LVDS channel directly extending from the CPU, comprising a first unidirectional, differential signal line pair to convey data in a first direction and a second unidirectional, differential signal line pair to convey data in a second, opposite direction, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series include, for example, PCIe and USB 3.x channels directly extending from them; and
- (e) the MXC-6400 Series has a second LVDS channel that can couple to a console through a USB 3.x port, which use two sets of unidirectional, differential signal pairs to convey USB protocol data packets in opposite directions.

126. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This

Section is thus illustrative of the manner in which Adlink infringes the claims of the '359 patent as to each of the Accused Adlink Products.

127. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 6 of the '359 patent, and additional infringed claims will be identified through infringement contentions and discovery.

128. As early as around April 30, 2013, Adlink had actual notice of the patent family of the '359 patent and the type of infringement arguments alleged herein.

129. The above-described acts of infringement committed by Adlink have caused injury and damage to ACQIS and ACQIS' licensees.

130. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

131. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

#### **COUNT IV INFRINGEMENT OF U.S. PATENT NO. 8,626,977**

132. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its third cause of action as though fully set forth herein.

133. Pursuant to 35 U.S.C. § 282, the claims of the '977 patent are presumed valid.

134. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed one or more claims of the '977 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing the Accused Adlink Products; has induced its customers or end-users to infringe one or more claims of the '977 patent in

violation of 35 U.S.C. § 271(b); and/or has contributed to the infringement of one or more claims of the '977 patent in violation of 35 U.S.C. § 271(c).

135. Adlink's infringement of the '977 patent through its manufacture, use, offers to sell, and/or sales in, and/or importation into, the United States of, and/or Adlink's inducement and/or contributory infringement in connection with, the Accused Adlink Products is shown by way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above, which demonstrates infringement of at least claim 1 of the '977 patent by showing:

- (a) the MXC-6400 Series is a computer;
- (b) the MXC-6400 Series has a variety of connectors configured to couple to a console, including USB 3.x ports;
- (c) the MXC-6400 Series has an integrated central processing unit (CPU) and graphics subsystem in a single chip, because the MXC-6400 Series uses 6th Generation Intel® Core™ processors, which include a graphics subsystem and the CPU integrated as a single chip;
- (d) the MXC-6400 Series has an LVDS channel directly extending from the CPU using two sets of unidirectional, differential signal line pairs to transmit encoded address and data bits of a PCI bus transaction in a serial bit stream in opposite directions, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series include, for example, PCIe channels directly extending from the CPU.
- (e) the MXC-6400 Series has serial bit channels coupled to the USB-3.x that are adapted to convey USB protocol data packets in opposite directions; and
- (f) the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series output digital video display signals through DDI and/or eDP channels.

136. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This Section is thus illustrative of the manner in which Adlink infringes the claims of the '977 patent as to each of the Accused Adlink Products.

137. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 1 of the '977 patent, and additional infringed claims will be identified through infringement contentions and discovery.

138. As early as around April 30, 2013, Adlink had actual notice of the patent family of the '977 patent and the type of infringement arguments alleged herein.

139. The above-described acts of infringement committed by Adlink have caused injury and damage to ACQIS and ACQIS' licensees.

140. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

141. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

**COUNT V**  
**INFRINGEMENT OF U.S. PATENT NO. RE44,739**

142. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its third cause of action as though fully set forth herein.

143. Pursuant to 35 U.S.C. § 282, the claims of the '739 patent are presumed valid.

144. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed infringe one or more claims of the '739 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing the Accused Adlink Products; has induced its customers or end-users to infringe one or more claims of the '739 patent in violation of 35 U.S.C. § 271(b); and/or has contributed to the infringement of one or more claims of the '739 patent in violation of 35 U.S.C. § 271(c).

145. Adlink's infringement of the '739 patent through its manufacture, use, offers to sell, and/or sales in, and/or importation into, the United States of, and/or Adlink's inducement and/or contributory infringement in connection with, the Accused Adlink Products is shown by way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above, which demonstrates infringement of at least claim 18 of the '739 patent by showing:

- (a) the MXC-6400 Series is a computer;
- (b) the MXC-6400 Series has an integrated central processing unit (CPU) and graphics controller in a single chip directly coupled to a first differential signal channel to convey digital video display information, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series is directly coupled to one or more differential signal channels to convey digital signals, including eDP and/or DDI channels;
- (c) the MXC-6400 Series has a second LVDS channel with at least two pairs of unidirectional, differential signal lanes to transmit data in opposite directions, including USB 3.x channels;
- (d) the MXC-6400 Series has a variety of connectors configured to couple to a console, including USB 3.x ports; and

(e) upon coupling to a console, the second LVDS channel in the MXC-6400 Series transmits USB protocol data through the USB 3.x ports.

146. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This Section is thus illustrative of the manner in which Adlink infringes the claims of the '739 patent as to each of the Accused Adlink Products.

147. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 18 of the '739 patent, and additional infringed claims will be identified through infringement contentions and discovery.

148. As early as around April 30, 2013, Adlink had actual notice of the patent family of the '739 patent and the type of infringement arguments alleged herein.

149. The above-described acts of infringement committed by Adlink have caused injury and damage to ACQIS and ACQIS' licensees.

150. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

151. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

## **COUNT VI INFRINGEMENT OF U.S. PATENT NO. 8,977,797**

152. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its third cause of action as though fully set forth herein.

153. Pursuant to 35 U.S.C. § 282, the claims of the '797 patent are presumed valid.

154. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed one or more claims of the '797 patent in violation of 35 U.S.C. § 271(g) by importing into, or selling, offering to sell, or using in, the United States the Accused Adlink Products that were manufactured by one or more of the methods claimed in the '797 patent, and/or has induced its customers or end-users to infringe one or more claims of the '797 patent in violation of 35 U.S.C. § 271(b).

155. The Accused Adlink Products are not trivial or nonessential components of other products and are not materially changed by subsequent processes.

156. Adlink's infringement of the '797 patent through its importation into, and/or use, offers to sell, or sales in, the United States of, and/or Adlink's inducement in connection with, the Accused Adlink Products is shown by way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above. These paragraphs demonstrate that the MXC-6400 Series was necessarily manufactured according to at least claim 36 of the '797 patent:

- (a) Adlink or another party performs a method of improving data throughput on a motherboard when manufacturing the MXC-6400 Series, which contains a motherboard;
- (b) when manufacturing the MXC-6400 Series, Adlink or another party mounts an integrated CPU and interface controller as a single chip on the motherboard, because the Intel processor employed in the MXC-6400 Series include interface controllers (*e.g.*, to drive/control PCIe channels) and the CPU integrated as a single chip;
- (c) when manufacturing the MXC-6400 Series, Adlink or another party connects an LVDS channel directly to an interface controller integrated with the CPU, which



LVDS channel uses two unidirectional, serial channels to transmit data in opposite directions because the MXC-6400 Series has PCIe channels and DMI interface directly connected to the interface controller;

- (d) when manufacturing the MXC-6400 Series, Adlink or another party increases data throughput in the serial channels by providing each channel with multiple differential signal line pairs, because the PCIe and DMI channels have multiple pairs of differential signal lanes;
- (e) when manufacturing the MXC-6400 Series, Adlink or another party configures the interface controller to adapt to different numbers of differential signal line pairs to convey encoded address and data bits of a PCI bus transaction in serial form, because the interface controller integrated with the CPU are configured to convey PCIe data signals through PCIe channels having differential signal line pairs; and
- (f) when manufacturing the MXC-6400 Series, Adlink or another party couples the integrated CPU and interface device to a peripheral device such as a mass storage device, which is attached to the motherboard through a PCIe channel.

157. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This Section is thus illustrative of the manner in which Adlink infringes the claims of the '797 patent as to each of the Accused Adlink Products.

158. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 36 of the '797 patent, and additional infringed claims will be identified through infringement contentions and discovery.

159. As early as around April 30, 2013, Adlink had actual notice of the patent family of the '797 patent and the type of infringement arguments alleged herein.

160. The above-described acts of infringement committed by Adlink have caused injury and damage to ACQIS and ACQIS' licensees.

161. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

162. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

## **COUNT VII INFRINGEMENT OF U.S. PATENT NO. RE45,140**

163. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its third cause of action as though fully set forth herein.

164. Pursuant to 35 U.S.C. § 282, the claims of the '140 patent are presumed valid.

165. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed one or more claims of the '140 patent in violation of 35 U.S.C. § 271(g) by importing into, or selling, offering to sell, or using in, the United States the Accused Adlink Products that were manufactured by one or more of the methods claimed in the '140 patent, and/or has induced its customers or end-users to infringe one or more claims of the '140 patent in violation of 35 U.S.C. § 271(b).

166. The Accused Adlink Products are not trivial or nonessential components of other products and are not materially changed by subsequent processes.

167. Adlink's infringement of the '140 patent through its importation into, and/or use, offers to sell, or sales in, the United States of, and/or Adlink's inducement in connection with, the Accused Adlink Products is shown by way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above. These paragraphs demonstrate that the MXC-6400 Series was necessarily manufactured according to at least claim 35 of the '140 patent:

- (a) Adlink or another party performs a method of improving performance of a computer when manufacturing the MXC-6400 Series;
- (b) when manufacturing the MXC-6400 Series, Adlink or another party obtains an integrated CPU and graphics controller as a single chip, because the MXC-6400 Series uses 6th Generation Intel® Core™ processors;
- (c) when manufacturing the MXC-6400 Series, Adlink or another party connects an LVDS channel directly to the integrated CPU and graphics controller that uses two unidirectional, serial bit channels to transmit data in opposite directions, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series directly connect to PCIe and DMI channels;
- (d) when manufacturing the MXC-6400 Series, Adlink or another party connects a differential signal channel directly to the integrated CPU and graphics controller to output digital video data, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series connect to DDI and/or eDP channels;
- (e) when manufacturing the MXC-6400 Series, Adlink or another party provides a connector for external peripheral data communication, because the MXC-6400 Series has a variety of connectors for external peripherals, including a USB3.x port; and

(f) when manufacturing the MXC-6400 Series, Adlink or another party provides a second LVDS channel using two unidirectional, serial bit channels to transmit data in opposite directions through the connector, because the MXC-6400 Series has a USB3.x connector capable of supporting USB3.x.

168. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This Section is thus illustrative of the manner in which Adlink infringes the claims of the '140 patent as to each of the Accused Adlink Products.

169. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 35 of the '140 patent, and additional infringed claims will be identified through infringement contentions and discovery.

170. As early as around April 30, 2013, Adlink had actual notice of the patent family of the '140 patent and the type of infringement arguments alleged herein.

171. The above-described acts of infringement committed by Adlink have caused injury and damage to ACQIS and ACQIS' licensees.

172. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

173. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

**COUNT VIII**  
**INFRINGEMENT OF U.S. PATENT NO. RE44,654**

174. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its third cause of action as though fully set forth herein.

175. Pursuant to 35 U.S.C. § 282, the claims of the '654 patent are presumed valid.

176. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed one or more claims of the '654 patent in violation of 35 U.S.C. § 271(g) by using one or more of the methods claimed in the '654 patent to manufacture the Accused Adlink Products and then importing, selling, offering to sell and/or using the Accused Adlink Products, and/or has induced its customers or end-users to infringe one or more claims of the '654 patent in violation of 35 U.S.C. § 271(b).

177. The Accused Adlink Products made using the methods claimed in the '654 patent are not trivial or nonessential components of other products and are not materially changed by subsequent processes.

178. Adlink's infringement of the '654 patent through its importation into, and/or use, offers to sell, or sales in, the United States of, and/or Adlink's inducement in connection with, the Accused Adlink Products is shown by way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above. These paragraphs demonstrate that the MXC-6400 Series was necessarily manufactured according to at least claim 23 of the '654 patent:

- (a) Adlink or another party performs a method of increasing data communication speed of a computer when manufacturing the MXC-6400 Series;
- (b) when manufacturing the MXC-6400 Series, Adlink or another party connects a CPU directly to a peripheral bridge on a printed circuit board, because the MXC-6400 Series uses an Intel core CPU directly connected to the Intel PCH via a DMI

connection;

- (c) when manufacturing the MXC-6400 Series, Adlink or another party connects an LVDS channel directly to the peripheral bridge (PCH), which uses two unidirectional, serial channels to transmit data in opposite directions, because the MXC-6400 Series has PCIe channels and DMI channels directly connected to the Intel PCH;
- (d) when manufacturing the MXC-6400 Series, Adlink or another party provides a connector to connect the computer to a console, because the MXC-6400 Series has a variety of connector ports such as USB3.x;
- (e) when manufacturing the MXC-6400 Series, Adlink or another party provides a second LVDS channel using two unidirectional, serial channels to transmit data in opposite directions through the connector to the console, because the MXC-6400 Series has a USB3.x; and
- (f) when manufacturing the MXC-6400 Series, Adlink or another party enables the transmission of USB protocol data through the second LVDS channel via a USB 3.x channel and port.

179. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This Section is thus illustrative of the manner in which Adlink infringes the claims of the '654 patent as to each of the Accused Adlink Products.

180. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 23 of the '654 patent, and additional infringed claims will be identified through infringement contentions and discovery.

181. As early as around May 1, 2018, Adlink had actual notice of the '654 patent and the infringement alleged herein.

182. The above-described acts of infringement committed by Adlink have caused injury and damage to ACQIS and ACQIS' licensees.

183. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

184. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

### **COUNT IX INFRINGEMENT OF U.S. PATENT NO. 8,234,436**

185. ACQIS incorporates by this reference the allegations set forth in paragraphs 1-100 of this Complaint in support of its first cause of action as though fully set forth herein.

186. Pursuant to 35 U.S.C. § 282, the claims of the '436 patent are presumed valid.

187. In view of the foregoing facts and allegations, including paragraphs 72-100 above, Adlink has directly infringed one or more claims of the '436 patent in violation of 35 U.S.C. § 271(a) by making, using, selling, offering to sell, and/or importing the Accused Adlink Products; has induced its customers or end-users to infringe one or more claims of the '436 patent in violation of 35 U.S.C. § 271(b); and/or has contributed to the infringement of one or more claims of the '436 patent in violation of 35 U.S.C. § 271(c).

188. Adlink's infringement of the '436 patent through its manufacture, use, offers to sell, and/or sales in, and/or importation into, the United States of, and/or Adlink's inducement and/or contributory infringement in connection with, the Accused Adlink Products is shown by

way of the exemplary MXC-6400 Series as set forth in paragraphs 72-86 above, which demonstrates infringement of at least claim 13 of the '436 patent by showing:

- (a) the MXC-6400 Series is a computer;
- (b) the MXC-6400 Series has a first LVDS channel comprising at least two sets of unidirectional, multiple serial bit channels to convey data in opposite directions, including but not limited to its PCIe and DMI channels;
- (c) the MXC-6400 Series has an integrated central processing unit (CPU) with a peripheral controller in a single chip directly coupled to one or more LVDS channels which can communicate encoded address and data bits of Peripheral Component Interconnect (PCI) bus transaction in serial form, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series are directly coupled to at least PCIe and DMI channels;
- (d) the MXC-6400 Series has system memory directly coupled to the integrated CPU and interface controller, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series are directly coupled to DDR4 memory;
- (e) the MXC-6400 Series has a mass storage device coupled to the CPU, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series are coupled to the mass storage drive; and
- (f) the MXC-6400 Series has a second LVDS channel which conveys digital video data that are directly coupled to the integrated CPU with graphics controller, because the 6th Generation Intel® Core™ processors employed in the MXC-6400 Series are directly coupled to eDP and/or DDI channels.



189. On information and belief, the Accused Adlink Products are in relevant part substantially similar to the exemplary MXC-6400 Series, in particular with regard to the manner in which the Accused Adlink Products include and utilize PCIe and/or USB 3.x functionality. This Section is thus illustrative of the manner in which Adlink infringes the claims of the '436 patent as to each of the Accused Adlink Products.

190. ACQIS' infringement allegations against the Accused Adlink Products are not limited to claim 13 of the '436 patent, and additional infringed claims will be identified through infringement contentions and discovery.

191. As early as around April 30, 2013, Adlink had actual notice of the patent family of the '436 patent and the type of infringement arguments alleged herein.

192. The above-described acts of infringement committed by Adlink have caused injury and damage to ACQIS and ACQIS' licensees.

193. ACQIS is entitled to recover all damages sustained as a result of Adlink's wrongful acts of infringement, but in no event less than a reasonable royalty pursuant to 35 U.S.C. § 284.

194. Adlink's infringement as described herein has been willful and exceptional. Accordingly, ACQIS is entitled to recover enhanced damages up to three times the amount found or assessed at trial pursuant to 35 U.S.C. § 284, as well as its attorneys' fees pursuant to 35 U.S.C. § 285.

### **JURY TRIAL DEMANDED**

ACQIS LLC hereby demands a trial by jury on all claims and issues so triable.

## **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff ACQIS LLC respectfully requests that this Court grant the following relief to ACQIS LLC:

A. enter judgment that Adlink has infringed one or more claims of each of the ACQIS Patents through: (1) the manufacture, use, offering to sell, and/or sale in the United States, and/or the importation into the United States, of infringing Adlink computer products; (2) the practice of claimed methods of the ACQIS Patents by manufacturing, using, and/or testing Adlink computer products in the United States; (3) the importation into the United States of Adlink computer products made abroad using patented processes claimed in the ACQIS Patents; (4) inducing third parties to directly infringe; and/or (5) contributory infringement.

B. enter judgement that such infringement is willful;

C. enter judgment awarding ACQIS monetary relief pursuant to 35 U.S.C. § 284 in an amount adequate to compensate for Adlink's infringement of the ACQIS Patents to be determined at trial, but not less than a reasonable royalty, awarding ACQIS all pre- and post-judgment interest and costs, and awarding ACQIS enhanced damages for Adlink's willful infringement of the ACQIS Patents;

D. enter an order, pursuant to 35 U.S.C. § 285, declaring this an exceptional case and awarding to ACQIS its reasonable attorneys' fees; and

E. enter an order awarding to ACQIS such other and further relief, whether at law or in equity, that this Court seems just, equitable, and proper.

Dated: May 10, 2024.

Respectfully submitted,

By: /s/ Case Collard

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**CERTIFICATE OF SERVICE**

Pursuant to the Federal Rules of Civil Procedure and Local Rule CV-5, I hereby certify that, on May 10, 2024, all counsel of record who have appeared in this case are being served with a copy of the foregoing via the Court's CM/ECF system.

/s/ Paige Arnette Amstutz

Paige Arnette Amstutz